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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/625,135 | 07/25/2000 | Robert M. Japp | EN9-99-082 | 8471 |

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| EXAMINER |
|---|
| SMITH, SEAN PRENTISS |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3729 | |

DATE MAILED: 06/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. 09/625,135 | Applicant(s) Japp |
|---|---|---|
| | Examiner Smith | Art Unit 3729 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on *Apr 8, 2002*.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *8-17* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☒ Claims *1-7* are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *Aug 7, 2000* is/are a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

## DETAILED ACTION

1. Claims 8-17 are directed to an invention not patentably distinct from claims 1-13 of commonly assigned US Patent 6,201,194. Specifically, International Buisness Machines. Lauffer discloses a method of fabricating a laminate structure comprising: a subassembly with at least two signal planes having a external and internal surfaces Fig 1, disposed about an internal voltage plane (12,16): providing a dielectric (10) between the signal and voltage planes; providing a dielectric on the exterior surface of the signal planes (34,32); providing a non-cured or partially cured dielectric composition (column 3 ln. 19-21). Lauffer fails to disclose the assembly comprising of at least two subassemblies that are laminated together to bond the subassemblies having a top and bottom circuit layer on the external surfaces of the assembly Fig. 4B.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 8-17 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,201,194 in view of Kessler et al (6175087).

2. Claims 8-12, 14-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Lauffer et al (6201194) in view of Keesler (6175087).

Regarding claims 8 and 16, Lauffer discloses a method of fabricating a laminate structure comprising: a subassembly with at least two signal planes (64') having a external and internal surfaces Fig 1, disposed about an internal voltage plane (12,16): providing a dielectric (10) between the signal and voltage planes; providing a dielectric on the exterior surface of the signal planes (34,32); providing a non-cured or partially cured dielectric composition (column 3 ln. 19-21). Lauffer fails to disclose the assembly comprising of at least two subassemblies that are laminated together to bond the subassemblies having a top and bottom circuit layer on the external surfaces of the assembly Fig. 4B.

Keesler discloses a multi layer assembly comprising of two subassemblies formed in a stacked configuration to mate a laminate structure Fig. 4B.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Lauffer to provide a multilayered assembly capable of using more power planes to connect multiple circuits on the assembly.

Regarding claims 9 and 14, where Lauffer is relied upon as above, Keesler discloses and interposer between the subassemblies, wherein the interposer comprises a dielectric layer (74) disposed around a conductive copper layer (70).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Lauffer with that of Keesler to provide a multi layer assembly with a interposer. Keesler teaches the usage of having a additional internal voltage plane that provides electrical conductivity through the assembly.

Regarding claim 10, where Lauffer and Keesler is relied upon as above, Keesler further discloses the surface of the subassembly to be bonded comprises of a dielectric material (24, 26).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Lauffer, that provides a single layer subassembly with that of Keesler. To provide a area of coverage that provides a nonconductive surface when aligning the subassemblies to form a protective barrier.

Regarding claims 11 and 12, where Lauffer and Keesler are relied upon as above, Lauffer discloses the subassembly having a plated via (60) disposed within the assembly. Lauffer fails to disclose the subassembly adjoin to multiple subassemblies.

Keesler discloses a the multilayered assembly comprising of at least two subassemblies Fig. 4a. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Lauffer with that of Keesler to provide a internal conductive bore that connects the signal and voltage planes to provide a continuous flow of conductivity.

Regarding claim 15, where Lauffer and Keesler are relied upon as above, Lauffer discloses a sub assembly having a voltage and signal plane having a dielectric layer disposed thereon, Lauffer fails to discloses the process of laminating the subassemblies together. Keesler discloses the process of stacking the subassemblies together having a interposer between the sub-components Fig .4B and the interposer (70) having a thickness (4 ln. 4-5). Lauffer and Keesler both fail to define the thickness of the interposer as being 3-10 mils thick.

It would have been obvious matter of design choice to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Lauffer and Keesler to provide a interposer layer having a thickness of 3-10 mils to create a stronger bond between the subassemblies wherein the thickness of the interposer would create a higher area of conductivity.

Regarding claim 17, where Lauffer is relied upon as above, Lauffer fails to disclose a bonding procedure of the assembly. Keesler discloses a laminating process that would bond the subassembly and the interposer together (column 6 ln. 20-24).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to establish a desired curing range of the composite structure in order to adhere and solidify the layers in the assembly together.

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lauffer and Keesler and further in view of Jester (5719354).

Regarding claim 13, where Lauffer and Keesler are relied upon as above for disclosing a method of fabricating a laminate structure. Both Lauffer and Keesler fail to disclose the via are filled with a conductive adhesive.

Jester discloses the via of a multi layer circuit element having via (12) that are filled with a conductive adhesive (column 3 ln 24-25).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Smith whose telephone number is 703-305-0831. The examiner can normally be reached on Monday thru Friday from 6:30 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo, can be reached on (703) 308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7058.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

PETER VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700